

What is claimed is:

1. A method of overwriting data in a write-once information storage medium, the method comprising:
 - receiving a command to overwrite new data in a first area of the write-once information storage medium where data has already been recorded;
 - determining the first area as a defective area and recording the new data in a second area; and
 - recording updated defect management information, including information about the locations of the first and second areas, in the write-once information storage medium.
2. The method of claim 1, wherein the recording of the new data comprises determining whether the first area is occupied with data, using recording-status information that represents the recording status of the write-once information storage medium by distinguishing occupied areas of data from unoccupied areas.
3. The method of claim 2, wherein the recording-status information is a bit map produced by allocating different bit values to occupied and unoccupied clusters of the write-once information storage medium.
4. The method of claim 1, wherein the recording of the new data comprises writing the new data to the first area and thereafter verifying the written new data, and determining the first area as a defective area according to a result of the verification of the new data.
5. The method of claim 1, wherein data previously recorded in the first area is a previous file system, and the new data to be recorded in the second area is an updated file system.
6. The method of claim 5, wherein the second area is included in a spare area allocated in a data area of the write-once information storage medium.
7. The method of claim 6, wherein information about the updated file system is recorded in the spare area in a direction opposite to a direction in which user data is recorded.

8. A method of overwriting data in a write-once information storage medium, the method comprising:

receiving a logical address to store new data from a host;

determining whether a first area with a physical address on the write-once information storage medium corresponding to the logical address is occupied with data and, if the first area is occupied with data, determining the first area as a defective area and recording the new data in a second area with a physical address different than the physical address of the first area; and

recording updated defect management information, including the physical addresses of the first and second areas, in the write-once information storage medium.

9. The method of claim 8, wherein the recording of the new data comprises determining whether the first area is occupied with data, using recording-status information that represents the recording status of the write-once information storage medium by distinguishing occupied areas of data from unoccupied areas.

10. The method of claim 9, wherein the recording-status information is a bit map produced by allocating different bit values to occupied and unoccupied clusters of the write-once information storage medium.

11. The method of claim 8, wherein the recording of the new data comprises writing the new data to the first area and thereafter verifying the written new data, and determining the first area as a defective area according to a result of the verification of the new data.

12. The method of claim 8, wherein data previously recorded in the first area is a previous file system, and the new data to be recorded in the second area is an updated file system.

13. A data recording and/or reproducing apparatus comprising:
a writer/reader which writes data to the write-once information storage medium or reads out the written data; and

a controller which determines as a defective area a first area of the write-once information storage medium which is occupied with data, when receiving a command to overwrite the new data in the first area, and controls the writer/reader to write new data in a second area and to write updated defect management information, including information about the locations of the first and second areas, in the write-once information storage medium.

14. The apparatus of claim 13, further comprising a memory which stores recording-status information that represents the recording status of the write-once information storage medium by distinguishing occupied areas of data from unoccupied areas,

wherein the controller determines whether the first area is occupied with data, using the recording-status information.

15. The apparatus of claim 14, wherein the recording-status information is a bit map produced by allocating different bit values to occupied and unoccupied clusters of the write-once information storage medium.

16. The apparatus of claim 13, wherein the controller controls the writer/reader to write the new data to the first area, read out the new data from the first area to verify the new data, and to determine the first area as a defective area according to a result of the verification of the new data.

17. The apparatus of claim 13, wherein data previously recorded in the first area is a previous file system, and the new data to be recorded in the second area is an updated file system.

18. The apparatus of claim 17, wherein the second area is included in a spare area allocated in a data area of the write-once information storage medium.

19. The apparatus of claim 18, wherein the controller controls the writer/reader to write information about the updated file system to the spare area in a direction opposite to a direction in which user data is recorded.

20. A data recording and/or reproducing apparatus comprising:
a writer/reader which writes data to a write-once information storage medium and/or reads out the written data; and
a controller which:
receives a logical address from a host to store new data on the write-once information storage medium,
determines whether a first area with a physical address on the write-once information storage medium corresponding to the logical address is occupied with data, and
if the first area is occupied with data, determines the first area as a defective area and controls the reader/writer to write the new data in a second area with a physical address different from the physical address of the first area, and to write updated defect management information, including the physical addresses of the first and second areas, to the write-once information storage medium.

21. The apparatus of claim 20, further comprising a memory which stores recording-status information that represents the recording status of the write-once information storage medium by distinguishing occupied areas of data from unoccupied areas,
wherein the controller determines whether the first area is occupied with data, using the recording-status information.

22. The apparatus of claim 21, wherein the recording-status information is a bit map produced by allocating different bit values to occupied and unoccupied clusters of the write-once information storage medium.

23. The apparatus of claim 20, wherein the controller controls the writer/reader to write the new data to the first area, read out the new data from the first area to verify the new data, and consider the first area as a defective area according to a result of the verification of the new data.

24. The apparatus of claim 20, wherein data previously recorded in the first area is a previous file system, and the new data to be recorded in the second area is an updated file system.

25. A method of managing data on a write once information storage medium, the method comprising:

- designating a data area and storing first data in a first portion of the data area;
- storing an initial file structure which identifies a location of the stored first data in a second portion of the data area;
- storing second data in the first portion of the data area; and
- storing an updated file structure in a third portion of the data area which identifies a location of the first and second data in the first data area.

26. The method of claim 25, wherein a direction of storing the first and second data on the storage medium is opposite a direction of storing the initial file structure and the updated file structure on the storage medium.

27. A method of managing data on a write once information storage medium, the method comprising:

- designating a first portion of a data area of the storage medium as a user data area and storing first data in the user data area;
- storing an initial file structure which identifies a physical address of the stored first data in a second portion of the data area;
- determining whether second data is intended as update data for the stored first data;
- designating the physical address of the first data as a defective area and storing the designated physical address of the first data in a defect management list, if the second data is intended as update data for the first data;
- using the defect management list to exclude the physical address of the first data as an address for storing any data;
- storing the second data in the user data area; and
- storing an updated file structure which identifies a physical address of the stored second data in a third portion of the data area.

28. The method of claim 27, wherein a direction of storing the first and second data on the storage medium is opposite a direction of storing the initial file structure and the updated file structure on the storage medium.

29. The method of claim 27, wherein:
the storing of the initial file structure comprises storing a logical address in correspondence with the physical address of the first data; and
the storing of the updated file structure comprises storing the logical address in correspondence with the physical address of the second data so that the second data is accessible using a same logical address as the logical address of the first data.

30. A method of updating data recorded on a once-write information storage medium using a host, the method comprising:
obtaining first data, a system bit map and defect information from the information storage medium, the defect information including an identification of areas of the storage medium which are presently occupied with the first data or with other data;
updating the first data using the host;
selecting a data-recordable area of the information storage medium based on the system bit map and the defect information using the host; and
transmitting the updated data to the information storage medium along with instructions to record the updated data in the selected data-recordable area.